

***Coyote Creek Trail: State Route 237 to Story Road BA/EFHA***



**Biological Assessment/Essential Fish Habitat Assessment**

City of San José, CA  
Santa Clara County  
4-[SCL]-0-SJ, HP LUL 5005(087)

***November 2011***



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**November 2011**

STATE OF CALIFORNIA  
Department of Transportation

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## Summary of Findings, Conclusions and Determinations

The City of San José, in cooperation with the California Department of Transportation (Caltrans), is proposing an approximately 9.6-mile (mi) extension of the existing multi-use Coyote Creek Trail from SR 237 to Story Road in San José, CA. The purpose of this Project is to provide recreational opportunities and an alternative transportation solution for residents of San José, with links to the countywide trail network, urban parks, schools, retail/employment centers, and public transportation nodes (including the future Berryessa BART station). The Project is composed of three reaches: 1) SR 237 to Montague Expressway (2.4 mi), 2) Montague Expressway to Watson Park (4.1 mi), and 3) Lower Silver Creek to Story Road (3.1 mi). The majority of the alignment will be a Class I, paved trail located along the top of bank of Coyote Creek. The proposed trail will generally consist of a 12-foot (ft) wide paved path with 2-ft wide compacted base rock shoulders on each side, for a total width of 16 ft. At several physically constrained locations, the paved trail will be 10 ft wide. Most of the trail (5.5 mi) will be constructed on existing unpaved service roads or gravel trails, while the remaining portions will either utilize existing on-street facilities and other paved surfaces (2.35 mi), or be constructed on undeveloped land at the top of bank or outside edge of the riparian corridor (1.75 mi). The proposed Project includes four pedestrian bridges over Coyote Creek and a pedestrian bridge over Lower Silver Creek. The proposed bridges are pre-fabricated, free-span bridges with abutments located outside of the creek channel bed and banks.

This Biological Assessment/Essential Fish Habitat Assessment (BA/EFHA) has been prepared following Caltrans' format.

H. T. Harvey & Associates ecologists conducted reconnaissance-level surveys and quantified habitat impacts along Reach 3 in May and November 2007; along Reach 2 in February and March 2010; and along Reach 1 in February 2011. The Biological Study Area (BSA) was defined as a 100-ft wide strip centered on the proposed trail. Seven biotic habitats were identified within the Project study area: mixed riparian forest, aquatic, ruderal herbaceous field, eucalyptus forest, developed/ornamental landscaping, agricultural, and freshwater wetland (seasonal and perennial).

The reconnaissance-level surveys included a search for habitats capable of supporting special-status species within the Project alignment. Federally listed plants were determined to be absent from the Project site due to a lack of suitable habitat and/or existing anthropogenic degradation of habitats in the urban setting of the Project. The federally threatened Central California Coast steelhead (*Oncorhynchus mykiss*) is the

only federally listed species that H. T. Harvey & Associates determined to be present within the Project reach.

Additionally, the Central Valley fall-run Chinook salmon (*Oncorhynchus tshawytscha*) was determined to be present within the Project reach. Although this species is not federally listed (it is a California species of special concern), it is regulated under the Pacific Coast Salmon Fishery Management Plan (FMP). As a result, Chinook salmon are regulated under the Magnuson-Stevens Fishery Conservation and Management Act, and habitat used by this species is considered Essential Fish Habitat (EFH). Therefore this BA is focused on the Central California Coast steelhead, and it includes an EFHA for the Central Valley fall-run Chinook salmon.

The steelhead occurs within the Project reach of Coyote Creek during migration between the ocean and spawning and rearing habitat upstream, and potential spawning habitat is available in the Project reaches. While steelhead are now relatively rare in Coyote Creek, the species has been documented recently in the Project reach of Coyote Creek (Moore et al. 2008). A limited amount of suitable spawning gravels may occur in the upper reaches of the Project, and steelhead are known to spawn in reaches and tributaries upstream from the Project area. Therefore, steelhead are expected to use the Project reaches of Coyote Creek, Upper Penitencia Creek, and possibly Lower Silver Creek, primarily during upstream and downstream movements between the ocean and upstream spawning areas. The Project reach of Coyote Creek and Upper Penitencia Creek are included in the Critical Habitat designation for the Central California Coast steelhead (NMFS 2005).

The Pacific Fisheries Management Council has delineated EFH for one Fishery Management Plan (FMP) within the Project reaches of Coyote Creek: the Pacific Coast Salmon FMP. Of the salmon that comprise this FMP, the Chinook salmon is the only one that occurs in the Project reaches. Chinook salmon did not historically spawn in streams flowing into South San Francisco Bay, but small numbers of fall-run Chinook salmon have been found in several South Bay streams, including Coyote Creek, since the mid-1980s. Conditions for successful spawning of Chinook salmon in the Project Area are marginal at best, since these fish spawn during fall when stream flow is at its lowest. Chinook salmon are expected to spawn in lower parts of the Coyote Creek watershed where the Project area is located, but it is not known whether spawning occurs along the reach of Coyote Creek in the Project area. Chinook salmon have similar spawning substrate requirements to steelhead, and thus

could potentially spawn in the Project reaches. It is also possible that small numbers of salmon will use the Project area during migration between the ocean and upstream spawning and rearing areas.

The Project improvements are designed to avoid work within the active channel, thereby avoiding both direct impacts to in-stream salmonid habitat and effects on individual salmonids via channel dewatering. The Project could temporarily degrade water quality during construction; however, standard water quality Best Management Practices (BMPs) will be implemented to avoid and minimize this effect. The Project will remove approximately 258 linear (ln) ft of Shaded Riverine Aquatic (SRA) habitat along Coyote Creek (i.e., tree canopy shade over the low-flow channel). Removal of this habitat is expected to have a minimal effect on steelhead and Chinook salmon because it represents a very small proportion of SRA habitat along this reach of Coyote Creek (~0.7%), and thus its loss will not have a substantial effect on functions and values that this habitat provides to aquatic species in Coyote Creek. Furthermore, studies in southern Santa Clara County and elsewhere indicate that invertebrate biomass is higher, and steelhead grow more quickly, at less shaded, somewhat warmer sites, than at densely shaded, cooler sites (Casagrande 2010). Therefore, thinning of vegetation as a result of riparian vegetation could actually benefit salmonids by increasing prey abundance in areas that are currently heavily shaded. In addition, the functions and values affected by the loss of this habitat will be replaced as canopy from adjacent trees fills the gaps created by tree removal, and loss of shading from these trees will be replaced by shading from the bridges being constructed. Additionally, effects on salmonids may occur as the result of pile driving while installing bridge supports and retaining walls. Loud and percussive noises have been shown to cause direct mortality, sensory damage, and behavioral changes. Implementation of conservation measures described in the technical guidance for reducing effects on salmonids from pile driving detailed by Caltrans (2009) will be followed, reducing noise-related effects on steelhead and Chinook salmon.

With implementation of the conservation and minimization measures described above, the Project will effectively minimize effects on steelhead and Chinook salmon, and thus no compensatory mitigation for steelhead or EFH is proposed.

The Project may affect, but is not likely to adversely affect, the Central California Coast steelhead, the Central Valley fall-run Chinook salmon, and EFH. Thorough design and review of the proposed Project have minimized effects on salmonids and EFH to the extent practicable. The implementation of the avoidance and minimization

measures described above will further curtail the effects of the proposed Project on steelhead and Chinook salmon. As a result, no take of these species is expected to occur as a result of the Project.

## Table of Contents

<b>Chapter 1.</b>	Introduction .....	1
1.1.	Project History.....	1
1.2.	Project Description.....	2
1.3.	Conservation Measures .....	7
1.3.1.	Implementation of Water Quality BMPs.....	8
1.4.	Summary of Consultation to Date .....	9
1.5.	Document Preparation History .....	9
<b>Chapter 2.</b>	Study Methods.....	11
2.1.	Listed and Proposed Species Potentially in the Biological Study Area .....	11
2.2.	Studies Required .....	14
2.3.	Personnel and Survey Dates .....	14
2.4.	Agency Coordination and Professional Contacts.....	14
2.5.	Limitations That May Influence Results .....	14
<b>Chapter 3.</b>	Results: Environmental Setting.....	15
3.1.	Description of Existing Biological and Physical Conditions .....	15
3.1.1.	Study Area.....	15
3.1.2.	Physical Conditions.....	15
3.1.3.	Biological Conditions in the Biological Study Area .....	16
3.1.3.1.	Mixed Riparian Forest.....	16
3.1.3.2.	Aquatic .....	25
3.1.3.3.	Ruderal Herbaceous Field .....	26
3.1.3.4.	Eucalyptus Forest .....	27
3.1.3.5.	Developed/Ornamental Landscaping .....	28
3.1.3.6.	Agricultural .....	29
3.1.3.7.	Freshwater Wetlands (seasonal and perennial) .....	30
<b>Chapter 4.</b>	Results: Biological Resources, Discussion of Impacts and Mitigation .....	31
4.1.	Central California Coast Steelhead .....	31
4.1.1.	Survey Results.....	35
4.1.2.	Avoidance and Minimization Efforts .....	35
4.1.3.	Project Effects .....	36
4.1.4.	Compensatory Mitigation.....	39
4.1.5.	Cumulative Effects .....	39
4.2.	Central Valley Fall-run Chinook Salmon/ Essential Fish Habitat.....	40
4.2.1.	Survey Results.....	41
4.2.2.	Avoidance and Minimization Efforts .....	42
4.2.3.	Project Effects .....	42
4.2.4.	Compensatory Mitigation.....	42
4.2.5.	Cumulative Effects .....	42
<b>Chapter 5.</b>	Conclusions and Determination .....	45
5.1.	Conclusions .....	45
5.2.	Determination.....	46
<b>Chapter 6.</b>	References .....	47
<b>Appendix A</b>	USFWS Species List .....	51



## List of Figures

Figure 1. Vicinity Map.....	3
Figure 2A. Biotic Habitats.....	17
Figure 2B. Biotic Habitats.....	18
Figure 2C. Biotic Habitats.....	19
Figure 2D. Biotic Habitats.....	20
Figure 2E. Biotic Habitats.....	21
Figure 3. CNDDDB Occurrences of Federally Listed Species.....	33

## List of Tables

Table 1: Federally Listed and Proposed Species, and Critical Habitat, Potentially Occurring or Known to Occur in the BSA.....	11
Table 2. Surface Area of Biotic Habitats within the BSA (ac).....	16
Table 3. Effects of the Project on Primary Constituent Elements of Central California Coast Steelhead Critical Habitat.....	38





## **List of Abbreviated Terms**

Ac	Acre(s)
BA	Biological Assessment
BSA	Biological Study Area
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
Dbh	Diameter at breast height (~4 ft)
EFH	Essential Fish Habitat
EFHA	Essential Fish Habitat Assessment
FMP	Fishery Management Plan
Ft	Foot/feet
Mi	Mile(s)
NES	Natural Environment Study
NOAA Fisheries	National Marine Fisheries Service
NMFS	National Marine Fisheries Service
RWQCB	Regional Water Quality Control Board
SCS	Soil Conservation Service
SCVWD	Santa Clara Valley Water District
USACE	United States Army Corps of Engineers
UPRR	Union Pacific Railroad
USFWS	Fish and Wildlife Service
USGS	United States Geological Survey



## **Chapter 1. Introduction**

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The purpose of this Biological Assessment/Essential Fish Habitat Assessment (BA/EFHA) is to provide technical information and to review the proposed Coyote Creek Trail: State Route (SR) 237 to Story Road Project (“Project”) in sufficient detail to determine to what extent the Project may affect threatened, endangered, or proposed species, and designated Essential Fish Habitat (EFH). This BA/EFHA has been prepared in accordance with legal requirements found in Section 7 (a)(2) of the Endangered Species Act (16 U.S. C 1536(c)) and with Federal Highway Administration and California Department of Transportation (Caltrans) regulation, policy and guidance. The document presents technical information upon which later decisions regarding Project impacts are developed.

The City of San José, in cooperation with Caltrans, is proposing an approximately 9.6-mi extension of the existing trail along Coyote Creek between SR 237 and Story Road in Milpitas and San José, California (Figure 1).

### **1.1. Project History**

The purpose of the proposed Project is to provide recreational opportunities and an alternative transportation solution for residents of San José, with links to the countywide trail network, urban parks, schools, retail/employment centers, and public transportation nodes (including the future Berryessa BART station).

The Coyote Creek Trail is an important part of the countywide trail network that will ultimately link Morgan Hill, San José, and the San Francisco Bay. Upon completion, the Coyote Creek Trail will extend approximately 30 mi in length from its north end at the Highway 237 Bikeway in north San José to its south end at the Walnut Rest Area near Anderson Lake County Park in Morgan Hill. The trail offers recreational and transportation opportunities for those who live, work, and play in San José.

Planning and construction for the Coyote Creek Trail has occurred in phases over many years as funding has become available. Over 50% (17.3 mi) of the trail has already been constructed, with the majority of the completed trail located at the southern end from Tully Road to the Walnut Rest Area (16.8 mi).

## **1.2. Project Description**

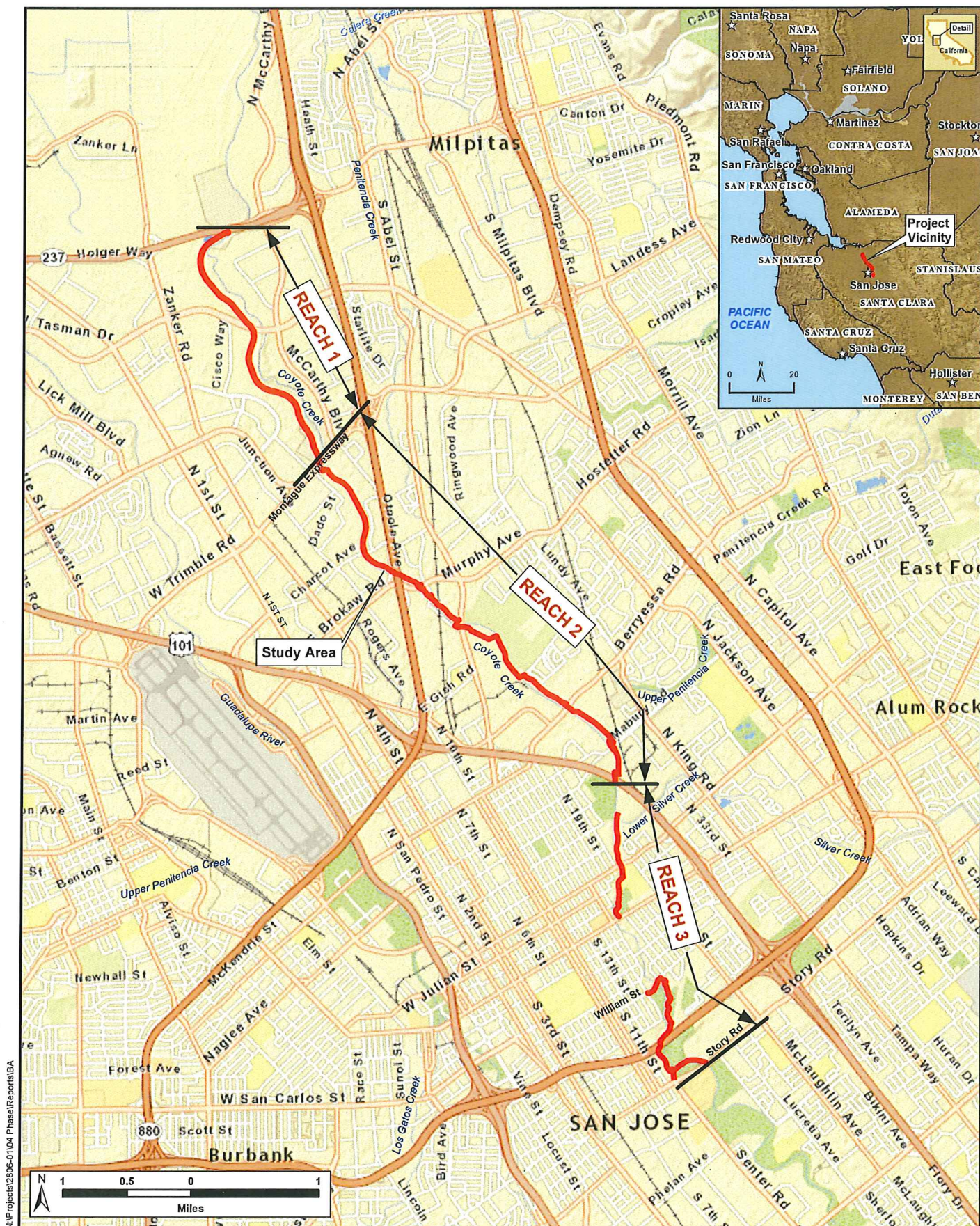
As illustrated in Figure 1, the Project is composed of three reaches: Reach 1) SR 237 to Montague Expressway (2.4 mi), Reach 2) Montague Expressway to Watson Park (4.1 mi), and Reach 3) Lower Silver Creek to Story Road (3.1 mi). The majority of the alignment will be a Class I trail located along the top of bank of Coyote Creek. The proposed trail will generally consist of a 12-ft wide paved path with 2-ft wide compacted base rock shoulders on each side, for a total width of 16 ft. At several physically constrained locations, the paved trail will be 10 ft wide. Portions of the trail that fall below the 10-year-flood water elevation (primarily at road under-crossings) will not have base rock shoulders. Signage and striping along the entire route will guide users about changing conditions and reinforce the rights-of-way.

Most of the trail (5.5 mi) will be constructed on existing unpaved service roads or gravel trails, while the remaining portions will either use existing on-street facilities and other paved surfaces (2.35 mi) or be constructed on undeveloped land at the top of bank or outside edge of the riparian corridor (1.75 mi). Adjacent to the San José High Academy (Reach 3), an 8-ft wide, 280-ft long raised boardwalk will be constructed along the top of the creek bank.

The proposed alignment includes four pedestrian bridges over Coyote Creek and one pedestrian bridge over Lower Silver Creek. The Project also includes 12 trail under-crossings beneath seven roadways (Charcot Avenue, O'Toole Avenue, Brokaw Road, Ridder Park Drive, Oakland Road, Berryessa Road, and Mabury Road), three freeways (I-880, US 101, and I-280), and two railroad trestles (near Ridder Park Drive and Senter Road). Retaining walls (ranging from 2 to 13 ft in height) will be constructed at the proposed under-crossings and to support the approach ramps at most of the pedestrian bridge locations. Construction access will not be required in the low-flow channels of Coyote, Permanente, and Lower Silver Creeks. Therefore, the Project will avoid dewatering and construction within the low-flow channels of these creeks.

Access to the trail will be provided at surface streets, public parks, and intersections with existing and planned trails. The Project proposes to improve the main access points with gateway features and to provide amenities along the trail. Amenities may include signage, seating, trash receptacles, trail maps, mileage markers, call boxes, dog bag dispensers, removable bollards, awareness strips, gateway architectural elements, and picnic areas. In addition, the Project includes a new mid-block crosswalk on East Julian Street. The Project does not include the construction of





**H. T. HARVEY & ASSOCIATES**  
ECOLOGICAL CONSULTANTS

**Figure 1: Vicinity Map**  
Coyote Creek Trail – State Route 237 to Story Road BA (2806-04)  
November 2011





parking for trail use or the provision of night lighting along the trail, except at the proposed under-crossings where overhead lighting will be installed and shielded to limit illumination of the waterway.

The proposed trail will be constructed on properties owned by the Santa Clara Valley Water District (SCVWD), Union Pacific Railroad (UPRR), San José Unified School District (SJUSD), Santa Clara County, Santa Clara Valley Transportation Authority (VTA), and the State of California (including Caltrans), as well as on three private properties. Easements, joint-use agreements, or encroachment permits will be required for construction and operation of the trail on these properties. The remainder of the trail, including the on-street portions, will be constructed on property owned by the City of San José. The three privately owned properties, including the Fox Property and the Flea Market site, are located along Reach 2.

The proposed Project will be designed to comply with federal, state, Caltrans, and local guidelines, including the Americans with Disabilities Act (ADA), National Pollution Discharge Elimination System (NPDES) Municipal Stormwater Permit, and Santa Clara County's 1995 Countywide Trails Master Plan Update.

The following is a description of the proposed Project by reach going from downstream to upstream (Figure 1).

**Reach 1: SR 237 to Montague Expressway.** This reach of the Coyote Creek Trail (2.4 mi) will be built on an existing gravel trail or existing paved surfaces along the western side of Coyote Creek. Work along the majority of this reach will comprise the paving of an existing base rock trail along the top of the western levee/creek bank of Coyote Creek. Pedestrians and bicyclists currently use this trail reach.

**Reach 2: Montague Expressway to Watson Park.** This reach of the Coyote Creek Trail is 4.1 mi in length. Approximately 2.2 mi of the 4.1-mi reach will be constructed on existing unpaved service roads owned by the SCVWD or the City of San José. Most of the remaining portions will be located at the top of bank or at the outside edge of a 100-ft riparian corridor setback.

Reach 2 of the proposed trail includes at-grade access points at several surface streets, 10 under-crossings, four 14-ft wide free-span pedestrian bridges crossing Coyote Creek and an access ramp from the south side of Berryessa Road down to the trail.

The proposed free-span bridges will be assembled adjacent to the installation site and installed with two cranes; one crane situated at the top of creek bank on each side of the creek. The existing service roads provide adequate access and therefore, heavy equipment will not access the creek bed and banks during bridge installation. The creek low-flow will not be diverted or dewatered during construction. Pile driving will be used to install the bridge supports at the span ends of each overcrossing. It is also possible that piles will be driven to support the proposed retaining walls leading up to the bridges, particularly on the levee adjacent to the mobile home park.

The proposed trail will cross Upper Penitencia Creek approximately 75 ft upstream of its confluence with Coyote Creek. The proposed trail will utilize the existing ~30 ft wide paved, culverted crossing at this location.

Riparian vegetation will be removed at the bridge crossings to facilitate installation. Riparian vegetation, including tree canopy, will subsequently be allowed to grow back to within 5 ft of the edge of the bridges. Tree canopy will be pruned in the long-term to maintain adequate clearance around the bridges for access (~ 5 horizontal ft from bridge and ~ 10 vertical ft over bridge).

The upstream end of this reach terminates at US101/Watson Park for the purposes of this BA. The short trail reach through Watson Park and the future pedestrian bridge connecting the park to the northern/downstream terminus of Reach 3 are not included in the proposed Project and are not addressed in this BA.

**Reach 3: Lower Silver Creek to Story Road.** This reach of the Coyote Creek Trail is 3.1 mi in length. Approximately 2.5 mi of the reach will be located on existing paved surfaces or unpaved service roads owned by the SCVWD or the City of San José, while the remaining 0.6 mi will be located at the edge of the riparian corridor.

Reach 3 begins with a proposed pedestrian/bike bridge over Lower Silver Creek near its confluence with Coyote Creek. The pedestrian bridge over Lower Silver Creek will be 16 ft wide, have three spans, and consist of pre-fabricated metal with concrete decking. The bridge abutments will be located outside the top of the creek bank. Pile driving may be used to install the bridge abutments. Construction equipment will not be operated in the low-flow channel and the low-flow channel will not be diverted or dewatered during construction.

The proposed trail will continue south on the existing SCVWD maintenance road to San José High Academy. South of Julian Street, the narrow width between existing



school buildings and the edge of the creek bank (approximately 3 to 4 ft) prevents construction of an on-grade trail. Therefore, a raised 8-ft wide, 280-ft long boardwalk is proposed along this portion of the trail. The boardwalk would be pre-fabricated concrete decking with metal railing on drilled piers. South of San José High Academy, the proposed trail would continue on the east side of the creek and connect to an existing pathway in Roosevelt Park.

At Santa Clara Street, the trail along Reach 3 splits to follow two alternate on-street alignments south to East William Street. The on-street alignment west of Coyote Creek follows sidewalks and an existing bike route along 16<sup>th</sup> and 17<sup>th</sup> streets. The eastern on-street alignment travels on South 19<sup>th</sup> Street.

At East William Street, the trail will cross Coyote Creek via an existing pedestrian bridge that connects William Street Park and Selma Olinder Park. The existing 8-ft trail at the north end of Selma Olinder Park and in William Street Park would be widened to 12 ft, although the existing pedestrian bridge would not be widened. Improvements to the bridge would be limited to the removal of some fencing at the bridge approaches to allow better pedestrian and bicycle access.

South of Selma Olinder Park, the trail will be constructed on an existing City of San José maintenance road that runs along the north side of the Coyote Creek riparian corridor, under I-280 and a UPRR trestle bridge. The proposed trail will run along this maintenance road and end at Story Road. The Project includes an optional, additional trail connection to Story Road along the UPRR right-of-way. This additional trail segment would cross Coyote Creek by placing the trail on the existing UPRR trestle.

### **1.3. Conservation Measures**

To reduce potential effects to sensitive biological resources, Caltrans proposes to incorporate construction best management practices (BMPs) and general avoidance and minimization measures into the proposed Project. Additional species-specific avoidance and minimization measures will also be included (see Section 4.1.2). These measures will be communicated to the contractor through the use of special provisions included in the contract bid solicitation package. These measures include BMPs for water quality control, construction site management practices, wildlife protection measures, and site restoration.

### **1.3.1. Implementation of Water Quality BMPs**

A Storm Water Pollution Prevention Plan (SWPPP) and erosion control BMPs will be developed and implemented to minimize any wind or water-related erosion and will be in compliance with the requirements of the Regional Water Quality Control Board.

The SWPPP will provide guidance for design staff to include provisions in construction contracts for measures to protect sensitive areas and prevent and minimize storm water and non-storm water discharges. Protective measures will include, at a minimum:

- No discharge of pollutants from vehicle and equipment cleaning will be allowed into any storm drains or watercourses.
- Vehicle and equipment fueling and maintenance operations will be at least 50 ft away from watercourses, except at established commercial gas stations or established vehicle maintenance facility.
- Concrete wastes will be collected in washouts and water from curing operations will be collected and properly disposed off-site. Neither will be allowed into watercourses.
- Spill containment kits will be maintained on-site at all times during construction operations and/or staging or fueling of equipment.
- Dust control measures will include use of water trucks and dust palliatives to control dust in excavation-and-fill areas, covering temporary access road entrances and exits with rock, and covering of temporary stockpiles when weather conditions require.
- Coir rolls or straw wattles will be installed along or at the base of slopes during construction to capture sediment. To prevent wildlife from becoming entangled or trapped in erosion control materials, no plastic monofilament netting (i.e., erosion control matting) or similar material will be used.
- Protection of graded areas from erosion using a combination of silt fences, native grass seed, fiber rolls, and erosion control netting (such as jute or coir) as appropriate on sloped areas. To prevent wildlife from becoming entangled or trapped in erosion control materials, no plastic mono-filament netting (i.e., erosion control matting) or similar material will be used
- Permanent erosion control measures such as bio-filtration strips and swales to receive storm water discharges from the highway, or other impervious surfaces will be incorporated to the maximum extent practicable.

Caltrans standard BMPs to maintain water quality are also a part of the Project to avoid or at least minimize degradation of water quality within the Project and downstream areas.

#### **1.4. Summary of Consultation to Date**

Formal consultation with the National Marine Fisheries Service (NMFS) has not been initiated to date. This BA/EFHA will be used by Caltrans to initiate formal consultation regarding Project effects on the Central California Coast steelhead (*Oncorhynchus mykiss*), and to consult with NMFS regarding potential impacts to EFH for the Central Valley fall-run Chinook salmon (*Oncorhynchus tshawytscha*).

Summaries of federally listed species potentially occurring in the immediate vicinity of the Project (i.e., within the *San José West*, *San José East*, and *Milpitas* U.S. Geological Service [USGS] 7.5-minute quadrangles) were requested and received (via internet) from the Sacramento U.S. Fish and Wildlife Service (USFWS) office on 16 May 2007, 17 February 2010, and 23 February 2011; the most recent species list (2011) is provided in Appendix A.

#### **1.5. Document Preparation History**

The following personnel at H. T. Harvey & Associates prepared this report:

- Steven Rottenborn, Ph.D., Senior Wildlife Ecologist
- Ginger Bolen, Ph.D., Senior Wildlife Ecologist
- Nellie Thorngate, M.S., Wildlife Ecologist
- Dan Stephens, B.S., Principal
- Max Busnardo, M.S., Project Manager

H. T. Harvey & Associates also prepared the Natural Environment Study (NES) for this Project (H. T. Harvey & Associates 2011).



## Chapter 2. Study Methods

### 2.1. Listed and Proposed Species Potentially in the Biological Study Area

H. T. Harvey & Associates biologists reviewed summaries of federally listed species potentially occurring in the immediate vicinity of the Project obtained through the Sacramento USFWS website ([http://www.fws.gov/sacramento/es/spp\\_list.htm](http://www.fws.gov/sacramento/es/spp_list.htm)). The list of federally protected species for the *San José West*, *San José East*, and *Milpitas* USGS 7.5-minute quadrangles was generated on 16 May 2007, 17 February 2010, and 23 February 2011. Table 1 lists all the federally listed species with the potential to occur on or in the vicinity of the proposed Project Biological Study Area (BSA), and the rationale for their presence or absence from the BSA. The BSA was defined as a 100-ft wide strip centered on the proposed trail.

**Table 1: Federally Listed and Proposed Species, and Critical Habitat, Potentially Occurring or Known to Occur in the BSA.**

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
Robust spineflower	<i>Chorizanthe robusta</i> var. <i>robusta</i>	FE	Very sandy or gravelly areas of chaparral (maritime), cismontane woodland (openings), coastal dunes, coastal scrub	A	No suitably open, dry, well-drained, coarse, loose, mineral soils in area.
Contra Costa goldfields	<i>Lasthenia conjugens</i>	FE	Mesic, often alkaline cismontane woodland, playas, valley and foothill grassland, vernal pool	A	Habitats on-site potentially supporting valley grassland and cismontane woodland species are highly disturbed. No depressional seeps, vernal pools, or strongly alkaline soils on-site.
Metcalf Canyon jewelflower	<i>Streptanthus albidus</i> ssp. <i>albidus</i>	FE	Serpentine areas of valley and foothill grassland	A	No serpentine features on-site.
Bay checkerspot butterfly	( <i>Euphydryas editha bayensis</i> )	FT	Serpentine grasslands in the San Francisco Bay area where host plant ( <i>Plantago erecta</i> ) is present.	A	No suitable habitat occurs within the BSA.
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	FE	Shallow ephemeral pools in grasslands or wet meadows, often alkaline playa pools	A	No suitable habitat occurs within the BSA.
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE	Shallow ephemeral pools in grasslands or wet meadows, often in colder waters	A	No suitable habitat occurs within the BSA.

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
Coho salmon (Central California Coast)	<i>Oncorhynchus kisutch</i>	FE	Spawning in accessible coastal streams, generally in areas with complex instream habitat, heavy forest cover, and high quality water. Juveniles rear in these areas for two years before migrating to the ocean.	A	This species is considered to be extirpated from South San Francisco Bay drainages.
Steelhead (Central California Coast)	<i>Oncorhynchus mykiss</i>	FT, CH	Spawns in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for one or more years before migrating to the ocean.	HP	Steelhead are known to occur in the Project reach of Coyote Creek and in Upper Penitencia Creek. Limited potential spawning habitat is present in the Project area, but spawning is known to occur in Upper Penitencia Creek upstream of the BSA (Entrix 2006).
Steelhead (Central Valley)	<i>Oncorhynchus mykiss irideus</i>	FT	Spawns in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for one or more years before migrating to the ocean.	A	The BSA is outside of the distribution of this species.
Chinook salmon (Sacramento River Winter Run)	<i>Oncorhynchus tshawytscha</i>	FE	Central Valley streams with stable water supply, clean gravel, and good quality riparian habitat. Spawning occurs upstream of the Red Bluff Diversion Dam.	A	The BSA is outside of the current distribution of this species.
Delta smelt	<i>Hypomesus transpacificus</i>	FT	Found only in the Sacramento-San Joaquin Estuary. Breed in fresher waters upstream of the main estuary in tidal sloughs and river channels.	A	The BSA is outside of the current distribution of this species.
California red-legged frog	<i>Rana draytonii</i>	FT	Streams, freshwater pools, and ponds with emergent or overhanging vegetation.	A	The portion of Coyote Creek within the BSA provides suitable foraging conditions, but this species has apparently been extirpated from the urbanized Valley floor in the Project vicinity due to predatory bullfrogs and introduced fishes, low water quality, and upland urban development. No recent CNDDDB records exist for this reach of Coyote Creek.
California tiger salamander	<i>Ambystoma californiense</i>	FT	Vernal or temporary pools in annual grasslands or open woodlands.	A	No suitable vernal or temporary pools occur within the BSA, and the site is isolated from known populations by substantial development and by barriers such as Highway 680 and Highway 101.

Common Name	Scientific Name	Status	General Habitat Description	Habitat/ Species Present/ Absent	Rationale
Alameda whipsnake	<i>Masticophis lateralis euryxanthus</i>	FT	Occupies open areas in chaparral, coastal scrub, and open woodlands, often near pond or stream edges, on the eastern side of the San Francisco Bay Area in Alameda and Contra Costa counties.	A	The BSA is outside of the distribution of the species, and is separated from known populations by substantial development and barriers such as Highway 680.
California clapper rail	<i>Rallus longirostris obsoletus</i>	FE	Restricted to salt marshes and tidal sloughs; usually associated with heavy growth of pickle-weed; feeds on mollusks removed from the mud in sloughs.	A	Suitable tidal marsh habitat does not occur within the BSA.
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	FT	Coastal beaches above the normal high tide line in flat, open areas with sandy or saline substrates; vegetation and driftwood are usually sparse or absent. In San Francisco Bay, nests in salt pannes.	A	Suitable sandy beach or salt panne habitat does not occur within the BSA.
California least tern	<i>Sternula antillarum browni</i>	FE	Nests on sandy, upper ocean beaches, and occasionally uses mud flats; forages on adjacent surf line, estuaries, or the open ocean.	A	Suitable sandy flat or salt panne habitat does not occur within the BSA.
Southwestern Willow Flycatcher	<i>Empidonax traillii eximius</i>	FE	Breeds locally in willow riparian corridors and moist willow thickets in southern and central deserts and mountains.	A	Uncommon migrant in riparian habitats; it is likely that none of those occurring on-site are of the federally listed subspecies.
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	FE	Flat or gently sloping grasslands, mostly on the margins of the San Joaquin Valley and adjacent valleys.	A	No records in the Project vicinity. The BSA is outside of the currently known range of the species, and is separated from possible movement corridors by extensive development.
Salt marsh harvest mouse	<i>Reithrodontomys raviventris</i>	FE	Salt marshes with a dense plant cover or pickleweed or fat hen; adjacent to upland refugia.	A	Suitable tidal marsh habitat does not occur within the BSA.

Absent [A]

Habitat Present [HP]

Present [P]

Critical Habitat [CH]

Status:

- No habitat present and no further work needed.

- Habitat is, or may be present. The species may be present.

- Species is present

- Project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

-Federal Endangered (FE); Federal Threatened (FT)

## **2.2. Studies Required**

H. T. Harvey & Associates biologists collected and reviewed information concerning federally threatened, endangered, and candidate species to determine if the species or suitable habitat was present. Beginning with the USFWS website, a list of species potentially occurring in the USGS quadrangle in which the Project occurs was obtained, as described in Section 2.1 above. H. T. Harvey & Associates consulted other sources including: Rarefind (California Natural Diversity Database [CNDDB] 2011); the associated California Wildlife Habitat Relationships information; the CNPS Inventory of Rare and Endangered Plants of California (2011); the Jepson Manual (Hickman 1993); and species accounts available through the USFWS, California Department of Fish and Game (CDFG), and technical publications.

## **2.3. Personnel and Survey Dates**

H. T. Harvey & Associates ecologists conducted reconnaissance-level surveys along Reach 3 on 4, 9, 16, and 24 May and 7 November 2007; along Reach 2 on 10, 17, 23 February, 11 March, and 4 October 2010; and along Reach 1 on 2 and 8 February 2011. Survey personnel included plant ecologists Kelly Hardwicke, Ph.D. and Brian Cleary, M.S.; wildlife ecologists Dave Johnston, Ph.D., Nellie Thorngate, M.S., and Robin Carle, M.S.; restoration ecologist Charles McClain, M.S.; and Project manager/senior restoration ecologist Max Busnardo, M.S.

## **2.4. Agency Coordination and Professional Contacts**

Summaries of federally listed species potentially occurring in the immediate vicinity of the Project (i.e., within the San José West, San José East, and Milpitas USGS 7.5 minute quadrangles) were requested and received (via internet) from the Sacramento USFWS office on 16 May 2007, 17 February 2010, and 23 February 2011; the most recent species list (2011) is provided in Appendix A.

## **2.5. Limitations That May Influence Results**

Focused or protocol-level surveys were not conducted for special-status plant or animal species during the preparation of the NES and BA/EFHA for this Project. Therefore, the determination of which species would be discussed in this BA/EFHA was based on habitat suitability assessments for special-status species on and near the BSA, coupled with a review of literature on areas of known occurrence of these species.



## **Chapter 3. Results: Environmental Setting**

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### **3.1. Description of Existing Biological and Physical Conditions**

#### **3.1.1. Study Area**

Figure 1 shows the locations of the three reaches of the BSA and the above Project Description (Section 1.2) describes the proposed project actions by reach. The Project alignment comprises the open space and riparian corridor of Coyote Creek, meandering through a highly developed urban landscape. Commercial and residential development occurs at the edge of the existing riparian corridor for much of the Project alignment, with the exception of the San José Municipal Golf Course, a few pockets of undeveloped land, and several City parks (i.e., Roosevelt Park, Selma Olinder Park, Watson Park, William Street Park).

#### **3.1.2. Physical Conditions**

The BSA is situated at an elevation of approximately 20-85 ft above mean sea level (USGS 7.5 Minute Quadrangle Maps; San José East, San José West, Milpitas Quads). The average annual precipitation at the site is 15-25 inches, and the average annual temperature is 59 degrees Fahrenheit (Soil Conservation Service [SCS] 1968). Soils from the Mocho series underlay the majority of the BSA (SCS 1968). These soils were originally formed in alluvium (i.e., sediments deposited by Coyote Creek flood waters), are moderately well drained, and are neutral to slightly alkaline (SCS 1968).

The Mocho Soils Undifferentiated (Mk) occurs throughout the southern half of the BSA from Watson Park to just south of the Oakland Road crossing. The texture of these soils is extremely variable within short horizontal and vertical distances, ranging from gravelly sandy loam, to silt loam and clay loam. The fertility of these soils is low and water availability is highly variable due to the variability in texture. Mocho Soils Undifferentiated generally gives way to the Mocho Loam (Mg) in the northern half of the BSA from the Oakland Road crossing to Montague Expressway. Mocho Loam soils are relatively well drained with loam to fine sandy loam textures. These high fertility soils are suitable for irrigated row crops, sugar beets, apricots, prunes, pears, and cherries.

### 3.1.3. Biological Conditions in the Biological Study Area

The distribution of biotic habitats within the BSA is shown in Figures 2A – 2E. Table 2 provides the surface area by habitat type.

**Table 2. Surface Area of Biotic Habitats within the BSA (ac)**

Habitat Type	Surface Area (ac)
Mixed Riparian <sup>1</sup>	20.52
Ruderal Herbaceous Field	32.02
Eucalyptus Forest	1.77
Developed/Ornamental Landscaping	51.63
Agricultural	0.26
Freshwater Wetlands (seasonal and perennial)	0.04
<b>Total</b>	<b>106.24</b>

<sup>1</sup> Includes the aquatic habitat and scattered freshwater wetland habitat within the low-flow channels of Coyote, Upper Penitencia, and Lower Silver Creeks which is covered by riparian canopy and was therefore, not visible in aerial photography. Mixed Riparian also includes 0.48 ac of existing riparian mitigation.

#### 3.1.3.1. MIXED RIPARIAN FOREST

**Vegetation.** Mature riparian forest occurs along the banks of Coyote Creek throughout the stretch of creek between SR 237 and Story Road. Reach 1 of the BSA is entirely located outside of the woody riparian habitat corridor and thus will not impact riparian habitat; however, both Reaches 2 and 3 feature riparian forest over much of their lengths located within the BSA. Therefore, the following description of riparian habitat is focused on Reaches 2 and 3. The majority of Coyote Creek within the BSA consists of a moderate to deeply incised channel with steep banks that rise approximately 10-20 ft from the bed of the channel to the tops of the banks. Riparian forest extends from the edge of the bed and banks of the channel up to, and occasionally beyond the tops of the banks growing in close proximity to landscaped trees and shrubs associated with adjacent developed areas. The riparian overstory canopy within the BSA reaches heights of over 50 ft in some areas with much of the understory composed of a patchy network of small trees and shrubs growing in dense and open stands from 2-15 ft in height. A substantial amount of rubbish comprising plastic bags, tarps, bottles, discarded clothes, tires, and other trash materials is present throughout the riparian understory. Numerous homeless encampments occur along the mid to upper banks of Coyote Creek including the road and bridge under-crossings within the BSA, particularly along Ridder Park Drive.

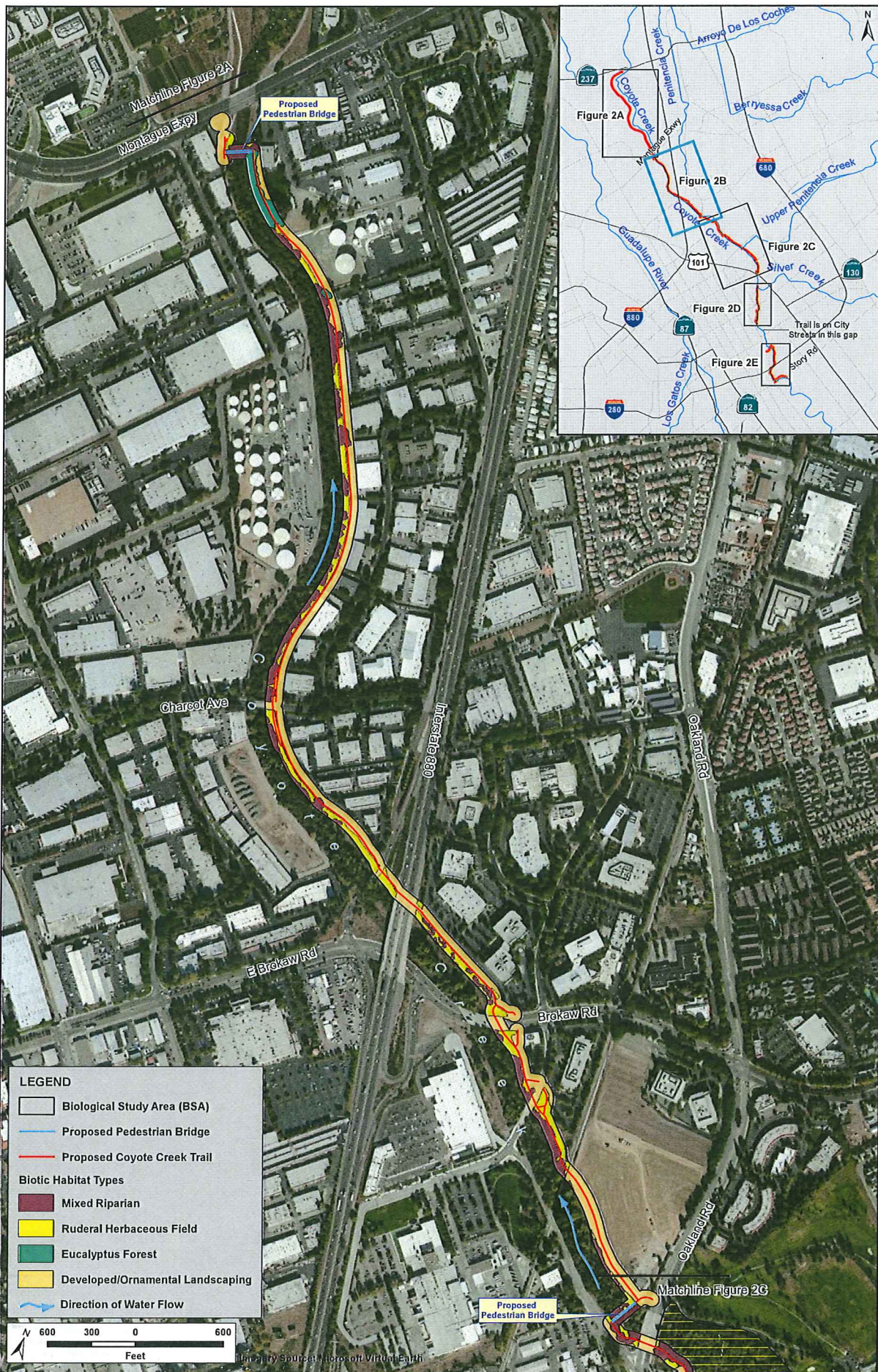
Plant species diversity is relatively high within the mixed riparian forest along Coyote Creek, which forms a structurally diverse mosaic of native and non-native trees and





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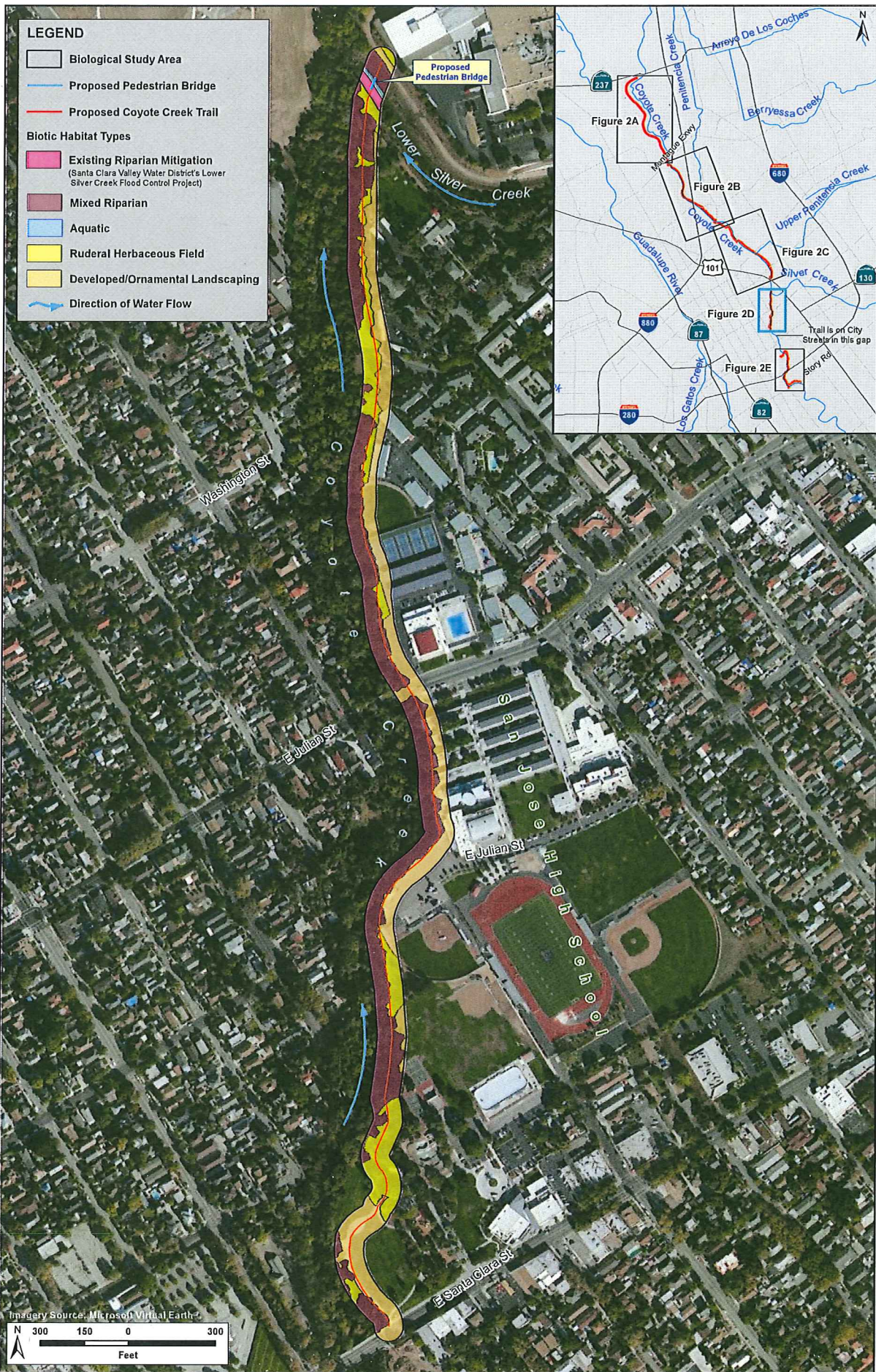




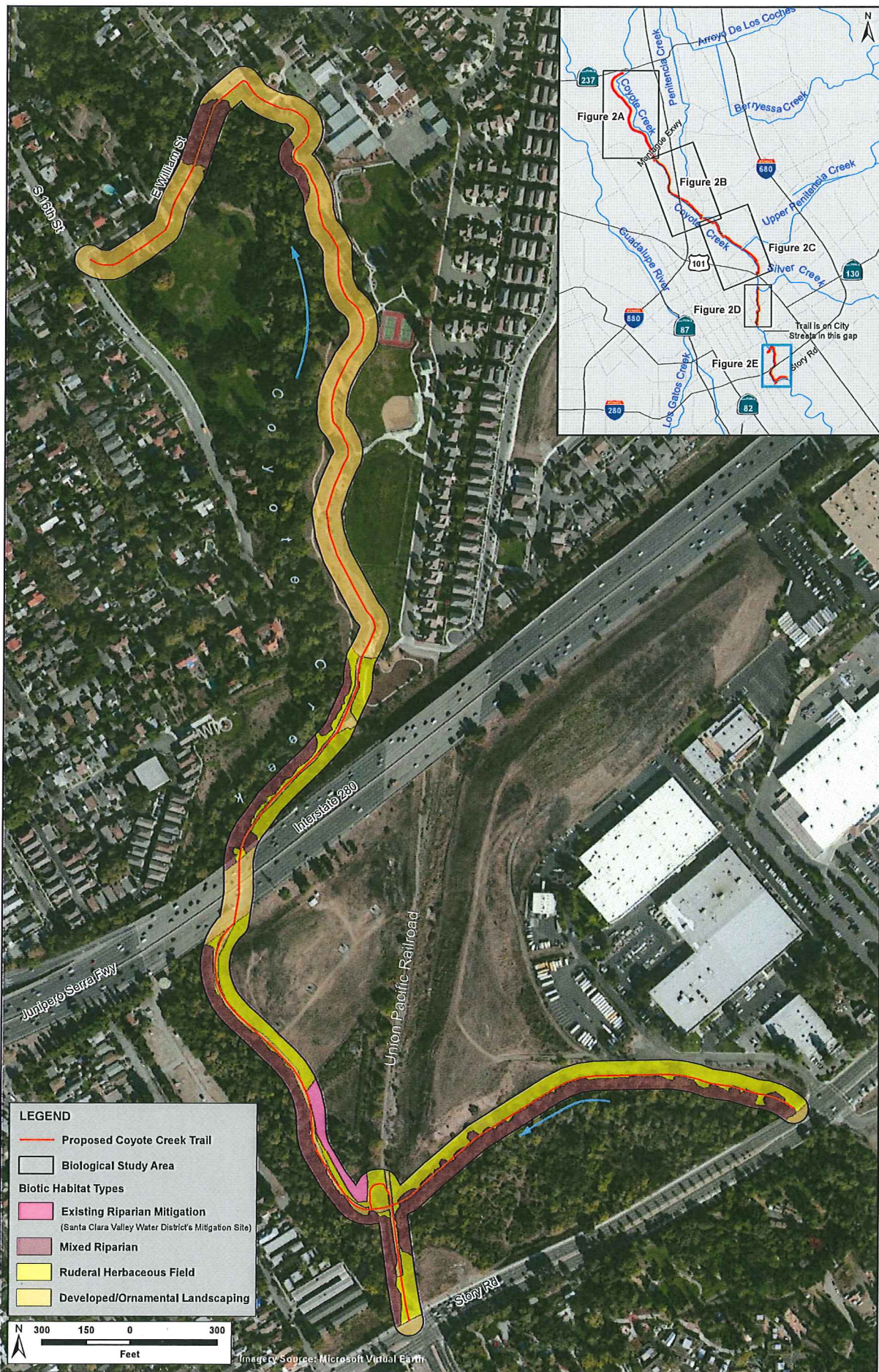


















shrubs with some areas supporting significant stands of exotic trees. Dominant native trees included Fremont's cottonwood, red willow, arroyo willow (*Salix lasiolepis*), box elder, and coast live oak (*Quercus agrifolia*). Other occasional native trees included California bay (*Umbellularia californica*), California buckeye (*Aesculus californica*), valley oak (*Quercus agrifolia*), western sycamore (*Platanus racemosa*) and holly-leaved cherry (*Prunus ilicifolia*). Some reaches of the riparian corridor support significant stands of large black walnut trees, a native tree that in the pre-Spanish era was restricted to several populations primarily located in Southern California. More recently, this species has been used as grafted rootstock for the English walnut (*J. regia*), commercially grown throughout California, resulting in the spread of this tree as a volunteer species into many riparian communities, including the population currently found within the banks of Coyote Creek.

Numerous extensive patches of non-native, invasive species are present in the overstory and understory of the riparian corridor throughout the BSA. These include black locust, tree-of-heaven, giant reed, Chinese elm, blue gum, Peruvian peppertree, Mexican fan palm (*Washingtonia robusta*) weeping willow, holly oak (*Quercus ilex*), almond (*Prunus dulcis*), Himalayan blackberry (*Rubus discolor*), and English ivy (*Hedera helix*).

Scattered patches of native shrubs are also present including poison oak (*Toxicodendron diversilobum*), California wild rose (*Rosa californica*), blue elderberry, as well as seedlings and saplings of the natives described above.

The herbaceous understory layer was often sparse to absent because the well-developed riparian tree canopy prevents sunlight from reaching much of the forest floor. Additional factors contributing the lack of herbaceous cover included the disturbed nature of the bed and banks of Coyote Creek from repeated flooding during the winter rainfall period as well as anthropogenic disturbances associated with the homeless encampments. Common weedy, non-native herbaceous species included periwinkle (*Vinca major*), smilgrass (*Piptatherum miliaceum*), poison hemlock (*Conium maculatum*), sweet fennel (*Foeniculum vulgare*), wild radish (*Raphanus sativus*) and mare's tail (*Conyza canadensis*). Native herbaceous plants included well-established areas of common bedstraw (*Galium aparine*) and occasional scattered occurrences of tall umbrella sedge in moist areas along the margins of the low-flow channel of Coyote Creek.

The downstream approximately 200 ft of Upper Penitencia Creek also falls within the BSA where the Berryessa Road access ramp would be located. Dense riparian tree canopy covers the steep banks and aquatic habitat along this reach of Upper Penitencia Creek. The mixed riparian habitat in this reach is dominated by box elder, a native riparian tree species, with a lower abundance of other native trees including Fremont cottonwood, blue elderberry, and California buckeye. The understory/groundcover comprises non-native species including English ivy and smilgrass. Planted eucalyptus forest occurs along the northern top of the Upper Penitencia Creek bank.

Three small riparian mitigation sites (~0.48 ac total) are located along Coyote Creek within the BSA; at the corner of Notting Hill Drive and Hazlett Way, at the proposed Lower Silver Creek pedestrian bridge crossing, and between Story Road and I-280. These sites are planted with native riparian tree and shrub saplings.

**Wildlife.** Riparian habitats in California generally support exceptionally rich animal communities and contribute disproportionately to landscape-level species diversity. The presence of year-round water and abundant invertebrate fauna provide foraging opportunities for many species, and the diverse habitat structure provides ample cover and nesting opportunities. The maturity and structural diversity of the riparian habitat along Coyote Creek in the BSA supports a high diversity and density of vertebrate species, particularly birds. The heavily urbanized context of the Project area limits the value of this habitat somewhat due to the long history of human disturbance and other urban-associated pressures on wildlife populations along Coyote Creek; however, this riparian corridor also serves as a refuge for wildlife in an otherwise inhospitable landscape.

The riparian corridor within the BSA supports a host of common invertebrate species that in turn provide food resources for a diversity of vertebrates. Leaf litter, downed tree branches, and fallen logs are expected to provide cover for amphibians such as arboreal salamanders (*Aneides lugubris*) and western toads (*Bufo boreas*), and Sierran chorus frogs (*Pseudacris sierra*) were heard singing within the riparian area adjacent to Reach 1 during the 2011 reconnaissance survey. Several lizards may also occur within the BSA, including western fence lizards (*Sceloporus occidentalis*), western skinks (*Eumeces skiltonianus*), and southern alligator lizards (*Gerrhonotus multicarinata*).

The riparian corridor along lower Coyote Creek supports a diversity of bird species during the various stages of their annual cycle. A well-established great blue heron

(*Ardea herodias*) rookery supporting at least 20 nests and attended by at least 14 individuals was observed in large cottonwoods within the riparian corridor approximately 300 ft east of Reach 1 (Figure 2A) during the 8 February 2011 reconnaissance survey. Raptors such as red-shouldered hawks (*Buteo lineatus*) and Cooper's hawks (*Accipiter cooperii*) nest within the riparian corridor and forage in adjacent habitats. Anna's hummingbirds (*Calypte anna*) and black phoebes (*Sayornis nigricans*) were observed defending territories along the riparian corridor within the BSA, and other resident breeding birds observed in riparian habitats during the reconnaissance surveys included California towhees (*Melospiza crissalis*), house finches (*Carpodacus mexicanus*), and American goldfinches (*Spinus tristis*). Other breeding songbirds using the Coyote Creek riparian corridor within the Project area include western scrub-jays (*Aphelocoma caerulescens*), Bewick's wrens (*Thryomanes bewickii*), chestnut-backed chickadees (*Poecile rufescens*), warbling vireos (*Vireo gilvus*), yellow warblers (*Setophaga petechia*), common yellowthroats (*Geothlypis trichas sinuosa*), song sparrows (*Melospiza melodia*), western flycatchers (*Empidonax difficilis*), black-headed grosbeaks (*Pheucticus melanocephalus*), and Bullock's orioles (*Icterus bullockii*). Riparian habitats along Coyote Creek are also used heavily by migrating birds such as Swainson's thrushes (*Catharus ustulatus*) and Wilson's warblers (*Cardellina pusilla*), as well as overwintering temperate migrants including ruby-crowned kinglets (*Regulus calendula*), yellow-rumped warblers (*Setophaga coronata*), and golden-crowned sparrows (*Zonotrichia atricapilla*), which were observed within the BSA during the reconnaissance surveys.

Small mammals such as ornate shrews (*Sorex ornatus*), California voles (*Microtus californicus*), and Audubon's cottontails (*Sylvilagus audubonii*) use the Coyote Creek riparian corridor within the BSA. Medium-sized mammals such as raccoons (*Procyon lotor*), striped skunks (*Mephitis mephitis*), and nonnative Virginia opossums (*Didelphis virginiana*) are common, urban-adapted species that are also present in this riparian habitat.

### 3.1.3.2. AQUATIC

**Habitat.** Aquatic habitat occurs within the active channel of Coyote Creek, most of which is well shaded by the riparian forest tree canopy. The aquatic habitat within Upper Penitencia Creek upstream of the proposed trail crossing is also well shaded by riparian tree canopy. However, mature riparian vegetation is absent from the downstream reach of Lower Silver Creek at the proposed pedestrian bridge crossing. Therefore, aquatic habitat in this reach is completely unshaded, and therefore likely warmer than the waters observed within Coyote Creek. The bed of Coyote Creek

primarily consists of unconsolidated materials, except for a small reach that is underlain with a gravel bed (SCS 1968; Entrix 2006). Water quality in all reaches appeared to be somewhat affected by trash dumping and homeless encampments.

**Wildlife.** The aquatic habitats within Coyote Creek support several species of native fishes, such as the California roach (*Hesperoleucus symmetricus*), Sacramento sucker (*Catostomus occidentalis*), and sculpins (*Cottus* sp.), as well as non-native fishes such as mosquitofish (*Gambusia affinis*), bluegill (*Lepomis macrochirus*) and inland silverside (*Menidia beryllina*) (Moore et al. 2008). The federally threatened Central California Coast steelhead spawns in the Coyote Creek watershed, particularly in Upper Penitencia Creek. The Central Valley fall-run Chinook salmon, a California species of special concern, has also been documented using Coyote Creek, and the species could spawn there. Amphibians such as western toads, Sierran chorus frogs, and non-native bullfrogs (*Lithobates catesbeianus*) are known to be present in the creek. The native western pond turtle (*Actinemys marmorata*) is present in very low numbers along lower Coyote Creek, where it is likely outnumbered by several species of nonnative turtles, such as red-eared sliders (*Trachemys scripta*) and painted turtles (*Chrysemys picta*) that have been released locally from captivity. Waterbirds such as mallards (*Anas platyrhynchos*), green herons (*Butorides virescens*), great blue herons, great egrets (*Ardea alba*), and belted kingfishers (*Ceryle alcyon*) forage in these waters; one great egret was observed within the Project area during the 8 February 2011 reconnaissance survey. Bats including Yuma myotis (*Myotis yumanensis*) and Brazilian free-tailed bats (*Tadarida brasiliensis*) forage aerially on insects over the creek, and raccoons forage in the shallows where crayfish or amphibians are present.

#### 3.1.3.3. RUDERAL HERBACEOUS FIELD

**Vegetation.** Much of the proposed trail will be located outside of the riparian corridor in ruderal herbaceous field habitat. Vegetation in these areas is dominated by a number of non-native, invasive plant species that thrive in disturbed areas. The majority of the ruderal fields are dominated by non-native grasses including smilgrass, wild oat (*Avena fatua*), rip-gut brome (*Bromus diandrus*), Italian wild-rye (*Lolium multiflorum*), wild barley (*Hordeum murinum* ssp. *leporinum*), Bermuda grass (*Cynodon dactylon*), and occasionally rabbitsfoot grass (*Polypogon monspeliensis*). Non-native herbaceous forbs included redstem filaree (*Erodium cicutarium*), cheese weed (*Malva parviflora*), telegraph weed (*Heterotheca grandiflora*), wild lettuce (*Lactuca serriola*), black mustard (*Brassica nigra*), and sow thistle (*Sonchus oleraceus*).

Occasional scattered patches of the native shrub coyote brush (*Baccharis pilularis*) are distributed throughout this community type forming small stands of brushy vegetation that generally lacked an herbaceous understory. Although present throughout much of the BSA, coyote brush represented only a small portion of the ruderal herbaceous field habitat and was therefore, not mapped as a separate habitat type.

**Wildlife.** The ruderal herbaceous habitats within the BSA are relatively small, highly disturbed, and often adjacent to fences, roads, and other developed areas. Such high levels of disturbance reduce the value of these habitat patches for wildlife species, particularly those species requiring extensive grasslands. These patches of herbaceous may, however, be utilized by a variety of generalist and/or urban-adapted wildlife species. Common reptiles such as western fence lizards and gopher snakes (*Pituophis melanoleuca*) are likely to occur in these habitat patches. Few if any bird species breed in these habitats, although a few individuals could potentially construct nests within sheltering stands of coyote brush where it occurs. Breeding birds present in adjacent developed or riparian habitats, such as red-shouldered hawks, white-tailed kites (*Elanus leucurus*), mourning doves (*Zenaida macroura*), black phoebes, cliff swallows (*Petrochelidon pyrrhonota*), and house finches, forage in or over these ruderal habitats, and foraging flocks of overwintering golden-crowned sparrows and white-crowned sparrows (*Zonotrichia leucophrys*) utilize these areas opportunistically. Common mammals using ruderal habitats within the BSA include Botta's pocket gophers (*Thomomys bottae*) and California ground squirrels (*Spermophilus beecheyi*), which were observed during reconnaissance surveys, as well as deer mice (*Peromyscus maniculatus*) and California voles.

#### 3.1.3.4. EUCALYPTUS FOREST

**Vegetation.** Several stands of eucalyptus forest dominated by blue gum, planted within an ornamental setting, occur along Coyote Creek within the BSA. One stand is located adjacent to the west bank of the Coyote Creek levee several hundred ft north of the Montague Expressway undercrossing, and a large stand of eucalyptus trees occupies a portion of the entire east bank of Coyote Creek just south of the Montague Expressway (Figures 2A and 2B). This large stand comprises several hundred eucalyptus trees that have naturalized to form a dense, continuous stand of arborescent vegetation with an overstory canopy reaching approximately 100 ft in height. In this location, the invasive eucalyptus trees have displaced virtually all the mixed riparian forest habitat along the bank of the creek. There is little to no understory vegetation due to a thick accumulation of eucalyptus bark that litters much of the forest floor.

Scattered patches of herbaceous vegetation dominated by ruderal, non-native plant species are found in openings that receive adequate sunlight.

A number of additional stands of eucalyptus forest occur within the BSA along the east bank of Coyote Creek including a second grove just south of the stand described above, and a third stand associated with a residential housing development near Chessington Drive (Figure 2B and 2C). Several similar small eucalyptus groves occupy linear strips of land along the east side of the top of bank adjacent to the City of San José Transportation Facility south of Mabury Road and along the north side of the top of bank of Upper Penitencia Creek at Berryessa Road (Figure 2C).

**Wildlife.** Eucalyptus groves tend to support lower wildlife diversity than mature, native-dominated riparian woodland because of the lack of structural diversity in the lower strata and lack of floristic diversity present within these habitats. Nevertheless, these groves are utilized by moderate numbers of wildlife species. Mature eucalyptus trees in the Project area provide suitable nesting habitat for raptors such as red-shouldered hawks and red-tailed hawks (*Buteo jamaicensis*). Other nesting birds such as Anna's hummingbirds, house finches, and Bullock's orioles also use these groves. The flowers and foliage of eucalyptus trees provide foraging opportunities for hummingbirds, finches, and warblers, and a small foraging flock of ruby-crowned kinglets and yellow-rumped warblers was observed moving through the large grove by Montague Expressway during the 2010 reconnaissance survey. Bats such as western red bats, Brazilian free-tailed bats, and Yuma myotis could roost in foliage, crevices and shreds of bark; western red bats have even been known to roost in the duff on the floor of eucalyptus groves (D. Johnston, pers. obs.). Urban-adapted mammals such as raccoons and striped skunks may also use these groves periodically.

#### **3.1.3.5. DEVELOPED/ORNAMENTAL LANDSCAPING**

**Vegetation.** The majority of the BSA is developed to varying degrees of intensity, and includes many areas of ornamental landscaping. Developed areas and associated landscaping within the BSA include the San José High Academy campus, Selma Olinder Park, the City of San José Flea Market, streets and bridges, commercial buildings and business parks, parking lots, residential housing, areas of bare ground and gravel roads maintained by the Santa Clara Valley Water District, Union Pacific Railroad tracks, and numerous under-crossings associated with the roads and highways that bisect the BSA.

Vegetation within developed areas consists of ornamental and cultivated trees, shrubs, and lawns associated with roads, commercial buildings, sidewalks, parking lots and

residential areas. Common trees include Peruvian pepper tree, coast redwood (*Sequoia sempervirens*), blue gum, and ornamental pines (*Pinus* sp.).

**Wildlife.** Developed habitats primarily support a suite of relatively common or generalist wildlife species that are tolerant of periodic human disturbances. Native bird species observed in developed habitats along Coyote Creek include Anna's hummingbirds, northern mockingbirds (*Mimus polyglottos*), and house finches. The European starling (*Sturnus vulgaris*) is a common nonnative species that nests in both artificial cavities and natural cavities in trees within the BSA. Nonnative house sparrows (*Passer domesticus*) typically nest under eaves or on similar artificial substrates near human habitation, and were detected in developed areas adjacent to Reach 1 during the 2011 reconnaissance survey. Paved or bare access roads and trails within the BSA could occasionally be used by wildlife moving along the riparian corridor; otherwise, they do not provide wildlife habitat. However, man-made bridges that mimic cliffs or rocky crevices found in more natural settings frequently create habitat for many wildlife species. Crevices that are found in bridges, retaining barriers, and rip-rap provide protection from inclement weather as well as from potential predators. Several of the overpasses within the BSA provide ample nesting substrate for common bird species such as black phoebes and nesting swallows; several swallow nests from previous breeding seasons were observed on the Tasman Drive and Montague Expressway overcrossings. Opossums, house mice (*Mus musculus*), eastern gray squirrels (*Sciurus carolinensis*), fox squirrels (*Sciurus niger*), Norway rats (*Rattus norvegicus*), and black rats (*Rattus rattus*) are common in developed habitats within the BSA, and native mammals such as deer mice, raccoons, and striped skunks are expected to occur in these areas as well.

#### 3.1.3.6. AGRICULTURAL

**Vegetation.** A single remnant patch of orchard occurs adjacent to the western bank of the Coyote Creek levee several hundred ft north of the Montague Expressway undercrossing, next to an old farmhouse (Figure 2A). The orchard appears to be fallow and is no longer in agricultural production.

**Wildlife.** Wildlife use of this small patch of senescent orchard is expected to be similar to use of landscaped areas of the BSA, as it is surrounded by developed areas. This habitat provides nesting substrate for common urban-tolerant bird species such as western scrub-jays, bushtits, and house finches, and if the trees still produce fruit during the summer they may provide foraging resources for a variety of birds and small mammals.

#### 3.1.3.7. FRESHWATER WETLANDS (SEASONAL AND PERENNIAL)

**Vegetation.** A single small patch of seasonal wetland habitat was mapped adjacent to the eastern bank of the Coyote Creek levee in ruderal habitat approximately 2,500 ft north of the Montague Expressway undercrossing, opposite Ovation Court (Figure 2A). The wetlands are associated with a 36-inch culvert and outfall structure installed beneath the levee, which drains landscape irrigation runoff from the adjacent residential housing development. Wetland plant species identified within the seasonal wetland include watercress (*Rorripa nasturtium-aquaticum*), tall umbrella sedge (*Cyperus eragrostis*) and annual beard grass (*Polypogon monspeliensis*).

Occasional small patches of seasonal and perennial freshwater wetland vegetation were observed along the margins of the low-flow channel throughout the BSA, including at the proposed bridge crossing location over Lower Silver Creek; these areas were considered too small to accurately map.

**Wildlife.** The quantity of wetland habitat within the BSA is too small to provide any measurable habitat value for wetland-dependent wildlife species. Insects and other invertebrates may congregate in and near this habitat, thus offering incidental foraging opportunities to passing birds and small mammals that live in adjacent habitats.



## **Chapter 4. Results: Biological Resources, Discussion of Impacts and Mitigation**

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H. T. Harvey & Associates ecologists conducted reconnaissance-level surveys of the Project alignment along Reach 3 in May 2007, along Reach 2 in February 2010, and along Reach 1 in February 2011, noting special-status species and habitats potentially suitable for these species. Table 1 lists all special-status species that may potentially occur in the Project region, and Figure 3 illustrates CNDDDB occurrences of these species within a 5-mi radius of the Project. Most of these species were rejected for potential occurrence in the Project area because it lacks suitable habitat and/or is outside of the range of the species. Others are known to occur in somewhat similar habitats in less developed areas in Santa Clara County but are not known or expected to be present in valley-floor areas as heavily urbanized as the Project area. The only federally listed species expected to occur within the BSA is the Central California Coast steelhead. The Project site also supports low numbers of Central Valley fall-run Chinook salmon, and thus contains EFH.

### **4.1. Central California Coast Steelhead**

The steelhead is an anadromous form of rainbow trout that migrates upstream from the ocean to spawn in late fall or early winter, when flows are sufficient to allow them to reach suitable habitat in far upstream areas. Spawning occurs between December and June. Steelhead usually spawn in clear, cool, perennial sections of relatively undisturbed streams. Preferred streams typically support dense canopy cover that provides shade, woody debris, and organic matter. Streams in which spawning occurs are usually free of rooted or aquatic vegetation. Gravel substrates are the optimum spawning habitat. Steelhead usually cannot survive long in pools or streams with water temperatures above 70°F. Despite their general requirement for cool water, steelhead can use warmer habitats if adequate food supply is available (Moyle 2002).

Steelhead populations have declined due to degradation of spawning and rearing habitat, introduction of barriers to upstream migration, over-harvesting by recreational fisheries, and reduction in winter flows due to damming and spring flows due to water diversion.









#### **4.1.1. Survey Results**

While steelhead historically occurred regularly throughout Coyote Creek, they are now relatively rare due to urbanization, the presence of barriers, and loss of spawning and rearing habitat. Steelhead were documented in 2008 in the portion of Coyote Creek where the trail Project occurs (Moore et al. 2008). Steelhead are not known to spawn along this reach of Coyote Creek; in the watershed, they are known to spawn primarily in reaches of Upper Penitencia Creek upstream from the Project area. A stream habitat assessment of Coyote Creek in 2003 found no spawning gravels in Project Reaches 1 and 2, with the possible exception of very small amounts of gravels near the Montague Expressway overcrossing (Buchan and Randall 2003). A fisheries habitat study by Entrix (2006) detected potentially suitable spawning gravels in the reach of Coyote Creek from Highway 101 upstream to East Julian Street and in the reach from William Street upstream to I-280, and it is possible that steelhead spawn in this reach. Steelhead have been documented spawning in Upper Penitencia Creek (Moore et al. 2008), in reaches well upstream from where the Project crosses this creek. Therefore, steelhead are expected to use the reaches of Coyote Creek, Upper Penitencia Creek, and Lower Silver Creek within the Project area primarily during upstream and downstream movements between the ocean and upstream spawning areas. It is unknown whether any steelhead rearing occurs within the Project reach of Coyote Creek, but it is possible that some rearing occurs here. The Project reaches of Coyote Creek and Upper Penitencia Creek are included in the Critical Habitat designation for the Central California Coast steelhead (Figure 3; NMFS 2005).

#### **4.1.2. Avoidance and Minimization Efforts**

All trail construction work is proposed to occur outside of the low-flow channels of the Project site and the low flow will not be diverted or dewatered. Therefore, the Project will not physically affect individual salmonids or in-stream habitat.

Project construction could impact water quality thereby causing indirect impacts to individual salmonids. The Project applicant will implement BMPs as described under Section 1.3.1 above to prevent or minimize adverse effects on water quality during construction.

The use of pile drivers to install bridge supports and potentially retaining walls could impact salmonids. Conservation measures described in the technical guidance for reducing impacts to salmonids from pile driving detailed by Caltrans (2009) shall be followed where practicable. Such measures will include:

- Limit pile-driving work to the period 15 June to 15 October, or even a narrower window within this period if so advised by NMFS or CDFG fisheries biologists.
- Use low-impact pile driving equipment to the greatest extent practicable, instead of impact hammers, to minimize underwater sound pressure levels. Examples of such low-impact equipment include vibratory hammers, hydraulic casing oscillators, and press-in pile installation.
- Avoid using steel piles to the extent practicable.
- In accordance with current guidelines (Popper et al. 2006, NOAA Fisheries et al. 2008), construction-related underwater sound exposure levels will be limited to less than 187 dB accumulated sound exposure levels and peak sound pressure levels of less than 208 dB.
- If feasible, generate lower intensity underwater sounds to repel fish from the immediate construction area prior to use of a high-pressure hammer.

#### **4.1.3. Project Effects**

The proposed Project will not involve any work in the live channel. All trail crossings will use a free-span bridge design, all construction access and installation activities will occur via existing service roads, and standard BMPs for water quality protection will be implemented as described above. Therefore, the Project will not result in permanent effects on in-stream habitat for salmonids or other aquatic species.

Construction in and near creeks can have an adverse effect on water quality downstream from the Project site due to increased turbidity and siltation. Degradation of water quality downstream resulting from construction could substantially impact aquatic wildlife species, including steelhead. Sedimentation could not only impair water quality, it could also fill the interstices between salmonid spawning gravels downstream from the site, or cover fish eggs in downstream areas, thus reducing reproductive potential.

Salmonids could also be adversely affected by noise and vibrations related to pile driving during installation of bridge supports and/or retaining walls. Noise and vibration from pile driving, jack-hammering, or other percussive activities could cause the mortality of individual fish if the noise is particularly loud and the fish are very close, or could cause sensory damage. The loss of hearing sensitivity may adversely affect the ability of steelhead to orient themselves, detect predators, locate prey, or sense their acoustic environment. Salmonids also may exhibit noise-induced avoidance behavior that causes them to move into less suitable habitat.

Implementation of BMPs as described above will minimize effects on individual salmonids, including effects resulting from noise/vibration, and avoid adverse effects on water quality during construction.

### **Shaded Riverine Aquatic Habitat**

In addition to potential water quality and noise impacts to salmonids, the Project will also result in the temporary and permanent loss of SRA habitat. Riparian vegetation in the BSA provides shade over Coyote and Upper Penitencia Creeks, helping to maintain moderate water temperatures during summer and providing organic matter input (leaf drop) and terrestrial insects to the aquatic food chain. We quantified the Project's SRA habitat impact as the linear distance of riparian tree canopy (native or non-native) for trees rooted within 15 ft of the edge of the low-flow channel. Approximately 258 linear ft of SRA habitat will be removed to allow for the installation of the four pedestrian bridges over Coyote Creek and the installation of a boardwalk adjacent to the San José High Academy. The linear distance of SRA impact is approximately 0.7% of the total channel length adjacent to the Project (36,995 ln ft) and as such spans a very small portion of the Project reach. The low-flow channel is well shaded throughout the majority of the Project reach and large trees (to remain) are located immediately adjacent to the SRA trees to be impacted and will continue to shade the channel.

Additionally, numerous existing willows and cottonwoods are present adjacent to the SRA trees to be removed and natural recruitment of willows and cottonwoods is evident adjacent to the proposed bridge locations. Therefore, we expect SRA habitat to re-establish within the impact areas within 7-10 years following bridge installation via the growth of adjacent willow/cottonwood tree canopy and natural recruitment of new willow/cottonwood seedlings. Future trail maintenance will entail pruning to prevent riparian canopy from growing over the bridge; therefore, there will be a permanent loss of approximately 56 ln ft of SRA habitat in the space occupied by the bridges. Given the small percentage of SRA removal in the Project reach, the likely natural recruitment of SRA, and the shade to be provided by the bridges themselves, we do not expect Project activities to result in a net change in water temperature or a substantial decrease in coarse woody debris or organic matter provided to the stream; thus the Project's impacts to SRA habitat will not have a substantial effect on salmonids.

Furthermore, studies in southern Santa Clara County have found that steelhead grew much more quickly, and thus were much larger by their first winter, at less shaded, somewhat warmer sites, which had higher prey abundance, than at densely shaded, cooler sites

(Casagrande 2010). Casagrande (2010) verified that invertebrate biomass was considerably higher at less heavily shaded sites than under a dense forest canopy. His findings confirm those of other studies demonstrating greater stream productivity (Murphy et al. 1981, Bilby and Bisson 1992, Quinn et al. 1997, Ambrose et al. 2004), and greater salmonid production (Wilzbach et al. 1986, 2005, Nislow and Lowe 2006), along reaches with lower canopy closure and higher light levels. Fish sampling by the Santa Clara Valley Water District in reaches below dense canopy has found very low densities of fish (of any species), apparently as a result of very low food densities (M. Moore, unpublished data). Therefore, thinning of vegetation as a result of the project could actually benefit steelhead and other fish by increasing prey abundance in areas that are currently heavily shaded.

### Designated Critical Habitat

The BSA contains designated critical habitat for the Central California Coast steelhead. The Primary Constituent Elements (PCEs) of critical habitat for the species that are present in the BSA, and the effects of the Project on these PCEs, are summarized in Table 3. These effects are derived from the analysis of Project effects on steelhead and their habitats described in the preceding sections.

**Table 3. Effects of the Project on Primary Constituent Elements of Central California Coast Steelhead Critical Habitat**

PCE	PCE Component	SMP Effects
Freshwater Spawning Sites	Water Quantity	The Project does not include any activities related to water quantity or water operations, and therefore Project activities will not affect water quantity.
	Water Quality	Project activities may adversely affect water quality in limited areas of potential spawning habitat due to mobilization of streambank sediments. Implementation of water quality BMPs will avoid or minimize these adverse effects.
	Substrate	Project activities may adversely affect substrate quality for spawning steelhead by causing mobilization of streambank sediments. Implementation of BMPs will avoid or minimize these adverse effects.
Freshwater Rearing Sites	Water Quantity	The Project does not include any activities related to water quantity or water operations, and therefore Project activities will not affect water quantity.
	Floodplain Connectivity	The Project will not reduce floodplain connectivity relative to existing conditions.
	Water Quality	Project activities may adversely affect water quality in rearing habitat due to mobilization of streambank sediments. Implementation of water quality BMPs will avoid or minimize these adverse effects.



PCE	PCE Component	SMP Effects
	Forage	Project activities may adversely affect foraging conditions for steelhead by increasing turbidity and sedimentation during construction activities; implementation of BMPs will avoid or minimize these adverse effects. Vegetation removal may reduce allochthonous input of organic matter into streams via vegetation removal, but will also result in thinning of dense canopies in some areas, resulting in increased stream productivity and prey abundance in heavily shaded areas.
	Natural Cover	Project activities could adversely affect natural cover by removing some riparian vegetation, which could in turn remove sources of instream complexity. However, ample vegetation will continue to exist throughout the Project reaches, and the Project will not actually remove any instream features. Project activities could also affect natural cover through mobilization of streambank sediments, which may fill interstices within gravel or cobbles. However, implementation of BMPs will avoid or minimize these adverse effects.
Freshwater Migration Corridors	Free Of Obstructions	The Project will not introduce any obstructions to fish passage or otherwise affect steelhead movements.
	Water Quantity	The Project does not include any activities related to water quantity or water operations, and therefore Project activities will not affect water quantity.
	Water Quality	Project activities may adversely affect water quality in rearing habitat due to mobilization of streambank sediments. Implementation of water quality BMPs will avoid or minimize these adverse effects.
	Natural Cover	Project activities could adversely affect natural cover by removing some riparian vegetation, which could in turn remove sources of instream complexity. However, ample vegetation will continue to exist throughout the Project reaches, and the Project will not actually remove any instream features. Project activities could also affect natural cover through mobilization of streambank sediments, which may fill interstices within gravel or cobbles. However, implementation of BMPs will avoid or minimize these adverse effects.

Project activities have the potential to result in adverse effects on PCEs of designated critical habitat for steelhead, but implementation of BMPs will ensure that any such impacts are minimal.

#### 4.1.4. Compensatory Mitigation

With the implementation of the avoidance and minimization measures described above, no residual impacts to steelhead will occur, and no compensatory mitigation is proposed.

#### 4.1.5. Cumulative Effects

Cumulative effects on Central California Coast steelhead result from past, current, and reasonably foreseeable future projects in the region. For the purpose of this BA, we considered other projects that are expected to affect Coyote Creek. The Santa Clara Valley Water District's ongoing Stream Maintenance Program (SMP) involves maintenance of creeks, levees, and associated infrastructure for purposes of flood control and habitat management. As a part of the SMP, the Water District periodically removes sediment from portions of Coyote Creek and manages vegetation through hand removal, pruning, and

herbicide treatments. The SMP affects substantially more steelhead habitat than will be affected by the Coyote Creek Trail Project, and provides compensatory mitigation for these effects in accordance with CEQA mitigation requirements and regulatory permit conditions. Other, smaller projects, such as the Julian Street Bridge and William Street Bridge retrofitting projects, have minor effects on Coyote Creek, and will also provide compensatory mitigation through the CEQA and/or permitting process (e.g., California Fish and Game Code Section 1602). In the future, projects that are covered activities under the Santa Clara Valley Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP) will mitigate effects on stream and riparian habitats along Coyote Creek through that program once the HCP/NCCP has been approved, and the Santa Clara Valley Water District will mitigate its water operations impacts on salmonids in the Coyote Creek watershed via the Three Creeks HCP. These HCPs will help to ensure the conservation of salmonids and stream habitats region-wide. The contribution of this Project to cumulative effects on salmonids will be minimal considering design elements that avoid and minimize construction activities within aquatic habitats, and the integration of BMPs to protect water quality. Thus, provided that this Project successfully incorporates the conservation measures described in this BA, the Project will not contribute to substantial cumulative effects on steelhead.

#### **4.2. Central Valley Fall-run Chinook Salmon/ Essential Fish Habitat**

Under Section 305 (b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act, federal agencies are required to consult with the Secretary of Commerce on any actions that may adversely affect EFH. The Pacific Fisheries Management Council has delineated EFH for one Fishery Management Plan (FMP) within the Project reaches of Coyote Creek: the Pacific Coast Salmon FMP. Of the salmon that comprise this FMP, the Chinook salmon is the only one that occurs in the Project reaches.

Like the steelhead, the Chinook salmon is an anadromous salmonid. California's largest populations of Chinook salmon originate in the Sacramento-San Joaquin River system; the species is not native in tributaries in South San Francisco Bay. Chinook salmon in San Francisco Bay exist as four races – winter, spring, fall, and late-fall – as defined by the timing of the adult spawning migration. The Chinook salmon found in South San Francisco Bay are fall-run adults that generally migrate from the ocean to the South Bay tributaries from late September through November. Spawning occurs in November and December. Juvenile migration downstream to the estuary usually occurs between mid-March and early May, though large storm events may displace them downstream in

January or February. Chinook salmon generally spawn in cool waters providing incubation temperatures no warmer than 55° F. Compared to steelhead, Chinook salmon are more likely to spawn in coarse gravels and lower in the watershed. Distribution and movement patterns of outmigrating juvenile Chinook salmon are not well understood, but they have been found throughout the San Francisco Bay. A monitoring study of fish assemblages in the main channel of South San Francisco Bay between the San Mateo and Dumbarton Bridges by mid-water trawl collected small numbers of the Chinook salmon at all three stations (Baxter et al. 1999).

Central Valley fall-run Chinook salmon populations have suffered the effects of over-fishing by commercial fisheries, degradation of spawning and rearing habitat, added barriers to upstream migration, and reductions in winter flows due to damming. Approximately 40 to 50 percent of the spawning and rearing habitats in Central Valley streams have been lost or degraded.

#### **4.2.1. Survey Results**

Chinook salmon did not historically spawn in streams flowing into South San Francisco Bay. This species was first observed in South Bay streams in the mid-1980s, coinciding with a large groundwater pumping operation that resulted in high flows in the Guadalupe River, even during summer and fall (SWRCB 1998, EPA 2005). These artificially high summer and fall flows apparently attracted Chinook salmon into South Bay streams, including lower Coyote Creek. The homing abilities of the salmon that were initially attracted into Coyote Creek may have been weakened due to mass releases of hatchery fish in Suisun and San Pablo Bays, rather than in the rivers in which the fish were intended to spawn (CDFG and NMFS 2001). Genetic analysis, timing of spawning, and the detection of coded wire-tagged hatchery fish in South Bay streams suggest that these fish are derived from Central Valley fall-run stock (Hedgecock 2002). Another study analyzing 28 juveniles in the Guadalupe River determined that 25 individuals keyed to Central Valley fall-run stock and three keyed to Columbia River stocks (Garza and Pearse 2008). Similarly, a study of adult Chinook salmon in the Guadalupe River conducted by SCVWD fisheries biologists found a large number of hatchery clipped and coded wire tagged individuals (Salsbery et al. 2004). Conditions for successful spawning in the Project reach is marginal, because these fish migrate upstream and spawn during fall (occasionally as early as July), when stream flow is at its lowest. Chinook salmon are expected to spawn in lower parts of the Coyote Creek watershed, but it is not known whether spawning occurs along the reach of Coyote Creek in the Project reach. Chinook salmon have similar spawning substrate requirements to steelhead, and thus could potentially spawn in the

Project reach. It is also possible that small numbers of salmon will use the Project reach during migration between the ocean and upstream spawning and rearing areas. Although Chinook salmon are known to spawn in Coyote Creek, there is no evidence that adults of subsequent generations are successfully returning to spawn in this creek or other South Bay streams, and thus there is no evidence that the species has naturalized in South Bay streams (SCVWD 1998-2005, Salsbery 2009).

#### **4.2.2. Avoidance and Minimization Efforts**

The avoidance and minimization measures described above for steelhead will also function to avoid or minimize effects on Chinook salmon.

#### **4.2.3. Project Effects**

Effects of the Project on EFH are analyzed in the context of effects on the Chinook salmon and its habitat, because that is the only species occurring in the Project reach that is regulated by an FMP. Because the Chinook salmon occurs and likely spawns in Coyote Creek, which is also used by steelhead, effects on the Chinook salmon and EFH are similar to those on the steelhead, and implementation of the BMPs described above to avoid or minimize such impacts to steelhead will also serve to avoid and minimize impacts to the Chinook salmon as well.

#### **4.2.4. Compensatory Mitigation**

With the implementation of the avoidance and minimization measures described above, no residual impacts to EFH will occur, and no compensatory mitigation is proposed.

#### **4.2.5. Cumulative Effects**

Cumulative effects on Central Valley fall-run Chinook salmon and EFH result from past, current, and reasonably foreseeable future projects in the region. For the purpose of this BA/EFHA, we considered other projects that are expected to affect Coyote Creek. The Santa Clara Valley Water District's ongoing Stream Maintenance Program (SMP) involves maintenance of creeks, levees, and associated infrastructure for purposes of flood control and habitat management. As a part of the SMP, the Water District periodically removes sediment from portions of Coyote Creek and manages vegetation through hand removal, pruning, and herbicide treatments. The SMP affects substantially more EFH than will be affected by the Coyote Creek Trail Project, and provides compensatory mitigation for these effects in accordance with CEQA mitigation requirements and regulatory permit conditions. Other, smaller projects, such as the Julian Street Bridge and William Street

Bridge retrofitting projects, have minor effects on Coyote Creek, and will also provide compensatory mitigation through the CEQA and/or permitting process (e.g., California Fish and Game Code Section 1602). In the future, projects that are covered activities under the Santa Clara Valley Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP) will mitigate effects on stream and riparian habitats along Coyote Creek through that program once the HCP/NCCP has been approved, and the Santa Clara Valley Water District will mitigate its water operations impacts on EFH in the Coyote Creek watershed via the Three Creeks HCP. These HCPs will help to ensure the conservation of salmonids and stream habitats region-wide. The contribution of this Project to cumulative effects on Central Valley fall-run Chinook salmon and EFH will be minimal considering design elements that avoid and minimize construction activities within aquatic habitats, and the integration of BMPs to protect water quality. Thus, provided that this Project successfully incorporates the conservation measures described in this BA, the Project will not contribute to substantial cumulative effects on Central Valley fall-run Chinook salmon or EFH.



## **Chapter 5. Conclusions and Determination**

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### **5.1. Conclusions**

While steelhead are now relatively rare in Coyote Creek, the species has been documented recently in the portion of Coyote Creek where the trail Project occurs (Moore et al. 2008). A limited amount of suitable spawning gravels may occur in the upper reaches of the BSA, and steelhead are known to spawn in reaches and tributaries upstream from the Project area. Therefore, steelhead are expected to use the reaches of Coyote Creek, Upper Penitencia Creek, and Lower Silver Creek within the BSA, primarily during upstream and downstream movements between the ocean and upstream spawning areas. The Project reach of Coyote Creek and Upper Penitencia Creek are included in the Critical Habitat designation for the Central California Coast steelhead (NMFS 2005).

Although Central Valley fall-run Chinook salmon are not native to Coyote Creek or other South Bay drainages, the species is expected to use the Project reach in low numbers, and Coyote Creek, including the Project reach, has been identified as EFH.

All trail construction work is proposed to occur outside of the low-flow channels of the Project site and the low flow will not be diverted or dewatered. Therefore, the Project will not directly affect individual salmonids or in-stream habitat.

Project construction could affect salmonids by impacting water quality, but the Project applicant will implement BMPs to prevent or minimize adverse effects on water quality during construction, minimizing effects on steelhead resulting from reduction in water quality. The use of pile drivers to install bridge supports and potentially retaining walls could affect salmonids. Conservation measures described in the technical guidance for reducing effects on salmonids from pile driving detailed by Caltrans (2009) will be followed where practicable, reducing noise-related effects on steelhead and Chinook salmon. The Project will also result in the temporary and permanent loss of SRA habitat. However, the amount of SRA habitat to be lost is small, and natural recruitment will minimize loss of SRA habitat within the Project alignment.

With implementation of the conservation and minimization measures described above, the Project will effectively minimize effects on salmonids and EFH, and thus no compensatory mitigation for steelhead or for loss of EFH is proposed.

## **5.2. Determination**

The Project may affect, but is not likely to adversely affect, the Central California Coast steelhead, Central Valley fall-run Chinook salmon, and EFH. Thorough design and review of the proposed Project have minimized effects on salmonids and salmonid habitat to the extent practicable. The implementation of the avoidance and minimization measures described above will further curtail the effects of the proposed Project on salmonids and EFH. As a result, no take of steelhead or Central Valley fall-run Chinook salmon is expected to occur as a result of the Project.



## Chapter 6. References

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## **Appendix A** USFWS Species List

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**United States Department of the Interior**  
**FISH AND WILDLIFE SERVICE**

Sacramento Fish and Wildlife Office  
2800 Cottage Way, Room W-2605  
Sacramento, California 95825



February 28, 2011

Document Number: 110228084339

Nellie Thorngate, M.S.  
H. T. Harvey & Associates  
983 University Avenue, Bldg D  
Los Gatos, CA 95032

Subject: Species List for Coyote Creek Trail NES

Dear: Ms. Thorngate

We are sending this official species list in response to your February 28, 2011 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be May 29, 2011.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found at [www.fws.gov/sacramento/es/branches.htm](http://www.fws.gov/sacramento/es/branches.htm).

Endangered Species Division



**U.S. Fish & Wildlife Service**  
**Sacramento Fish & Wildlife Office**  
**Federal Endangered and Threatened Species that Occur in**  
**or may be Affected by Projects in the Counties and/or**  
**U.S.G.S. 7 1/2 Minute Quads you requested**

Document Number: 110228084339

Database Last Updated: April 29, 2010

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Quad Lists

Listed Species

Invertebrates

- Branchinecta conservatio*  
Conservancy fairy shrimp (E)
- Euphydryas editha bayensis*  
bay checkerspot butterfly (T)  
Critical habitat, bay checkerspot butterfly (X)
- Lepidurus packardii*  
Critical habitat, vernal pool tadpole shrimp (X)  
vernal pool tadpole shrimp (E)

Fish

- Hypomesus transpacificus*  
delta smelt (T)
- Oncorhynchus mykiss*  
Central California Coastal steelhead (T) (NMFS)  
Central Valley steelhead (T) (NMFS)  
Critical habitat, Central California coastal steelhead (X) (NMFS)
- Oncorhynchus tshawytscha*  
Central Valley spring-run chinook salmon (T) (NMFS)  
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

- Ambystoma californiense*  
California tiger salamander, central population (T)
- Rana draytonii*  
California red-legged frog (T)  
Critical habitat, California red-legged frog (X)

Reptiles

- Masticophis lateralis euryxanthus*  
Alameda whipsnake [=striped racer] (T)

Birds

- Charadrius alexandrinus nivosus*  
western snowy plover (T)
- Pelecanus occidentalis californicus*  
California brown pelican (E)
- Rallus longirostris obsoletus*  
California clapper rail (E)
- Sternula antillarum* (=Sterna, =albifrons) browni  
California least tern (E)

Mammals

- Reithrodontomys raviventris*



salt marsh harvest mouse (E)

*Vulpes macrotis mutica*

San Joaquin kit fox (E)

## Plants

*Dudleya setchellii*

Santa Clara Valley dudleya (E)

*Lasthenia conjugens*

Contra Costa goldfields (E)

Critical habitat, Contra Costa goldfields (X)

*Streptanthus albidus ssp. albidus*

Metcalf Canyon jewelflower (E)

*Suaeda californica*

California sea blite (E)

## Proposed Species

### Amphibians

*Rana draytonii*

Critical habitat, California red-legged frog (PX)

### Quads Containing Listed, Proposed or Candidate Species:

MILPITAS (427B)

SAN JOSE WEST (427C)

SAN JOSE EAST (427D)

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## County Lists

No county species lists requested.

### Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the [National Oceanic & Atmospheric Administration Fisheries Service](#). Consult with them directly about these species.

*Critical Habitat* - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

## Important Information About Your Species List

### How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

## Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online [Inventory of Rare and Endangered Plants](#).

## Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our [Protocol](#) and [Recovery Permits](#) pages.

For plant surveys, we recommend using the [Guidelines for Conducting and Reporting Botanical Inventories](#). The results of your surveys should be published in any environmental documents prepared for your project.

## Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal [consultation](#) with the Service. During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

## Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our [Map Room](#) page.

### Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

### Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. [More info](#)

### Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

### Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be May 29, 2011.

